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MT PRRIME FAQs

The first new software from MT PRRIME is only five months away. The budget system is from Legacy Solutions, not PeopleSoft, and it is due to be implemented in May. Understandably, IT managers from across the state have been asking how this software package will impact their agencies and systems. The following summarizes some frequently asked questions given to the Information Technology Management Council (ITMC) at their December 1997 meeting:

Q: What's the minimum configuration?

A: The budget development system will run on a 486 PC with 16MB of RAM and 20MB of free disk space. However, the PeopleSoft applications, which begin rolling out four months later (with asset management replacing PAMS in September, 1998) will minimally require a 133Mhz Pentium with 32MB of RAM and 200MB of free hard disk space. Consequently, if you need to upgrade, or if you anticipate that budget module users will also access the asset management module, it would be a good idea to equip employees with the higher configuration. It is recommended that employees who will use the new products become proficient in Windows 95, Word, and Excel prior to module training.

Q: What operating system will be required?

A: We plan to have a 16-bit version and a 32-bit version of the budget system application, so each agency can decide which one to use. Our preference will be to distribute the 32-bit version, but we realize some agencies may not be ready. A key consideration may be which version of SQL*Net your agency currently uses, and when do you plan to upgrade? Agencies using the 16-bit version of SQL*Net

will be required to use the 16-bit version of the budget system. The good news is that agencies which start out with the 16-bit version will be able to switch to the 32-bit version with little impact to the end users other than learning the new operating system.

Q: Will we have to use Word and Excel?

A: Although you don't need these products to access the primary budget system, a knowledge of Excel will allow the user to link to the

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Oracle database for *ad hoc* reporting. The budget system will provide a large number of reports which will be available without the use of Word or Excel. In addition, we are considering maintaining a library of Crystal reports that would be available to help minimize the need for Excel *ad hoc* reporting. Users of the PeopleSoft modules will need Word and Excel on their desktops as well as Windows 95.

Q: How will deployment be handled?

A: The project team is developing a rollout strategy for the budget system, and for the PeopleSoft applications as well. Our plans call for a draft to be available by early February.

Q: What training will budget development staff need?

A: A training plan is currently being developed. Training for the budget system will occur during March and April, 1998.

Q: Where will support for the budget system come from? Will it be MT PRRIME staff or ISO?

A: The project team is currently working on a support plan. We need to identify both the non-technical and technical support requirements and provide a solution.

Q: What functionality can be expected from the new budget development system?

A: The new system will provide many more options in the amount of information added to the budget building process, with the hope that it will cover the range of practices used by the various agencies. Responsibility center detail can be used as the initial budgeting blocks. At the other extreme, the system provides the option to work at the program level. No one method is prescribed by the Office of Budget, Program & Planning (OBPP), it is up the various agencies to decide and they are not locked into their decision in subsequent budget cycles.

The system will provide the functionality to load budgets on the PeopleSoft General Ledger (GL). Agencies who have maintained their responsibility center level detail can use the tool to load this budget on the GL also.

Regardless of the level of detail agencies use

to prepare their budget request, the system allows the budget request to be rolled-up to an agreed level upon submittal, thereby preventing the budget analysts in the Capitol building from being buried in an unmanageable amount of detail.

The system allows agencies to maintain up to five versions of their budget. There could be different versions for internal approvals (line supervisor, Division administrator, Director approved), high/low budget options or "what-ifs". Versions can be deleted by the user.

"Version" based design allows users to quickly compare/monitor their budget throughout the approval process. A flexible report generator allows novices to prepare their own comparison reports.

For more information contact Jim Sheehy of MT PRRIME at 444-5848, ZIP! or e-mail at jsheehy@mt.gov. Or visit the MT PRRIME web site at <http://www.mt.gov/doa/mtprprime.htm>.

Calendar of Events

January 7

Information Technology Managers Council (ITMC)

8:30-11am, Rm 312-2, Capitol

January 13

9-1-1 Advisory Council

9am-noon, Rm 108, Capitol

January 14

Montana Geographic Information Council

9am-3pm, Rm pending

January 20

Joint Oversight Committee on State Management Systems

8am-5pm, Rm 437, Capitol

January 21

The Information Technology Advisory Council (ITAC)

8:30-noon, Rm 108, Capitol

January 27

SummitNet Executive Council (SEC)

1:30-3:30pm, DPHHS Auditorium-METNET Site

Road Reports On-line

Even though we are having a mild winter so far, daily statewide winter road reports from the Department of Transportation began for the season on October 27th.

Two reports are produced each morning. The first, available at 7am, reports overnight conditions on the interstates and major passes. A more detailed report, available at 7:30am and again at 2:30pm, covers major roads, passes and any problem areas.

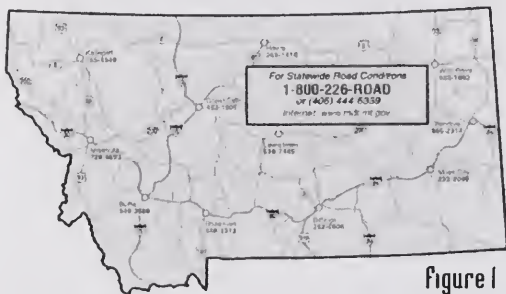


Figure 1

Thirty-two toll-free lines are available to take incoming calls. The number for the statewide summary report is **800-226-ROAD (7623)** or **444-6339**. In addition, reports of conditions in the vicinity of eleven of the larger cities are available. These reports cover major and many lesser traveled roads and are generally the earliest reports available. (See map, figure 1)

For those with a computer and modem, a detailed, section by section report on most highways is also available each day around 7am and again at 2pm. It's available on the state bulletin board at **800-962-1729**. For Internet users, the MDT home page is at <http://www.mdt.mt.gov>. For the hearing-impaired, the TTY number is **800-335-7592**.

Last year the department received over 360,000 calls on the toll-free lines and numerous "hits" on our Internet home page.

For more information contact Bodell Miller of the Montana Department of Transportation at 444-0468, ZIP! or e-mail at U6530@long.mdt.mt.gov.

Oracle Web Server

Oracle Corporation has announced changes in their Oracle Web Server strategy. Beginning in July 1997 you are now required to license a new software product called Developer 2000 Server Cartridge to implement Oracle Developer 2000 applications on the web. The cartridge is JAVA code that enables your Oracle Form or Report to execute without code change as a web application. The license is basically a deployment fee for Developer 2000 Web runtime. The Developer 2000 Server Cartridge is licensed per concurrent user with eight being the minimum user license and 32 the maximum user license per CPU. As an example, if you wanted an unlimited user license on a server with three processors, then you would license for 96 concurrent users. The cartridge can be purchased for a CPU based license fee of \$136.50 per concurrent user or a Network User based license fee of \$171.50 per concurrent user. Annual support maintenance is an additional 15% of net. The CPU based license is CPU and operating system specific and an upgrade fee will be required to switch platforms, but the Network based license is specific to our declared enterprise database platforms and doesn't require an upgrade fee to switch hardware or operating system. The cartridge is said to require approximately 8-10MB of RAM per web concurrent user. An alternative to using the cartridge would be to develop web applications using PL*SQL, C, or JAVA that access the Oracle database and display HTML.

The Oracle Web Application Server Advanced Edition software is still required, it sells for \$696.50 per CPU with annual support maintenance an additional 15% of net. The three software products (Oracle Database Server, Oracle Web Application Server, and Oracle Developer 2000 Server) can all reside on the same hardware or individual hardware. You do need to be careful with the software release dependencies: Oracle Database Server 7.3.2 or greater; Oracle Web Server 2.0 or greater - 2.1 is highly recommended; Developer 2000 1.4W or greater - 1.5 is highly recommended; Designer 2000 1.3.2; Netscape 4.03 or Explorer 4.0 or any other browser that supports Java Development Kit 1.1.

For additional information or questions please contact Gary Poepping of the Systems Support Bureau at 444-2811, ZIP! or e-mail at gpoeping@mt.gov.

Computer Security Training Offered

Does your network administrator or network security officer need to learn about the state's enterprise network security? Do you have new or current employees that need to learn about loginIDs, passwords, or virus processes, and your agency does not have the time to hold training? ISD will now offer a free, two hour training course to network administrators/security officers and end users addressing these topics.

With the expansion of our state's computer system with SummitNet, and the addition of access to the Internet for many state employees, security of the state's enterprise network is very important. More than half of security problems occur due to the lack of employee knowledge of an organization's computer system. ISD will provide information, using avenues such as this training, to prevent any accidental security problems within the state's enterprise computer system.

The training for network administrators/security officers will include such hot topics as the PIX box, agency security responsibilities, network and file server security, Internet security, and other current security issues. This training has been scheduled for February 3, 1998 1:30-3:30 pm in room 13 of the Mitchell Building.

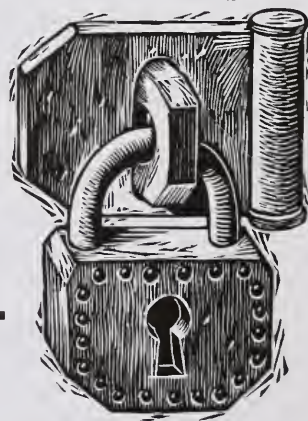
The training for end users will include

network security laws, rules, and policies; loginIDs and passwords; viruses, hoaxes, and chain letters; proper use of e-mail and the Internet; and user responsibilities. This training will be held the third Thursday of each month at 8:30-10:30 am, starting February 19, 1998 in room 13 of the Mitchell Building. Please contact Kim LaRowe or Lois Lebahn of ISD at 444-2700 to register for either of these classes.

Who should attend? All agency network administrators/security officers and other interested employees with advanced computer training, should attend the network administrator's training. All new and current state employees should attend the end user training. Preference will be given to new state employees.

ISD will also "bring it to you". If you would like to have one of these training sessions held specifically for your agency all you have to do is provide a room and any travel expenses that might be involved.

For more information regarding computer security training, please contact Lynne Pizzini, Network Security Officer, at 444-4510, ZIP! or e-mail at lpizzini@mt.gov.



Computing Policy Update

The Computing Policy and Development section of ISD has embarked on a mission to modernize and finalize all of the computing policies. Many policies are currently in draft form, in need only of some finishing touches and final approval to become official. The policies themselves will have a new look, with a new format and numbering scheme. You can find existing *Enterprise Computing Policies* on the web at <http://www.mt.gov/isd/policies/policies.htm>. Look for an article on the progress of this effort each forthcoming month here in *ISD News & Views*.

For more information contact Audrey Hinman of the Policy, Development and Customer Relations Bureau at 444-1635, ZIP! or e-mail at ahinman@mt.gov.

Year 2000

The Computing Policy and Development Unit of ISD has announced that Scott Lockwood is the new Year 2000 Compliance Officer for the state. Scott has a broad background in information technology and customer service in the public and private sectors and will be responsible for fielding questions regarding Year 2000 issues as well as coordinating the state's response to this serious issue.

Agencies have been evaluating their systems and establishing plans for making them year 2000 compliant. These plans include the system's priority, the approach used to make the system compliant and the target compliance date. This information is being collected and updated in a central database maintained by ISD called the Year 2000 Compliance Reporting System.

The following information was gathered from the Year 2000 Compliance Reporting System. As of December 1, 1997, 766 systems have been identified in the Enterprise (excluding the University System.) Of these 766 systems, nearly 30% (213) are currently year 2000 compliant. There are 192 high priority systems and most are scheduled to become year 2000 compliant by early 1999, leaving adequate time for thorough testing.

Industry experts have warned that testing year 2000 repairs should comprise nearly half of the entire compliance effort. ISD will provide three isolated platforms for year 2000 testing: a LAN server, an Oracle server and a mainframe server. The LAN and Oracle Servers are ready for testing and the mainframe server, LPAR, will be ready February 1998. See the related article on the mainframe disk storage upgrade. Judeykay Schofield of the Systems Development Support Section of ISD will be the testing coordinator. To schedule year 2000 testing, contact Judeykay at 444-4069, ZIP!, or e-mail at jschofield@mt.gov.

Please contact Scott Lockwood for further year 2000 compliance information at 444-2655, ZIP!, or e-mail at slockwood@mt.gov.



RAMAC Virtual Array

ISD has recently purchased a new disk storage system called the RAMAC Virtual Array 2 Turbo storage subsystem (referred to as RVA). The majority of our current 3390 DASD will be replaced with this new RVA. All production data will be migrated over to this new device in the next few months. Frances Greene will be coordinating this effort. From a user's perspective, the data migration should be transparent. No JCL changes will be required since the new DASD will retain the identical volumes as the current DASD. IPLs will be scheduled when certain system data sets are moved. Users will be notified in advance when the system will not be available.

RVA is RAID 6 architecture, which can keep vital information accessible, even with two disk failures in the same array. DASD head crashes with the subsequent downtime, should become a thing of the past. The technology uses hot pluggable IBM Ultastar 2XP drives, power supplies, and system components. This subsystem is connected to the ES/9000-

832 via eight ESCON channels. It has 420GB of effective storage and 3072MB of effective cache. The word, effective, is used because there is not that much physical storage/cache on the RVA. The following discussion explains how IBM calculates the effective amounts.

RVA uses the concept of virtual storage to achieve usage levels of 100% of the available physical disk space. The traditional view of a DASD (3390) volume with tracks, cylinders, and VTOC remains the same to the user. What is different about RVA is how the subsystem physically stores data on a disk. The first thing to appreciate is that, internally, in the RVA there is no one-to-one mapping between the external (MVS/ESA) view of a disk volume and the disk drive on which the data resides. In traditional disk subsystems, disks have a specific hardware address where the data actually resides. The RVA will have hardware addresses assigned to it but these addresses represent virtual

disks. Within this subsystem, the virtual disks are a disk array which represents a pool of space. The pool is not divided into specific units of allocation, so the pool may contain a specified amount of allocatable space and each virtual volume will use a variable amount of that pool space. The size is not fixed because RVA optimizes the way in which data is stored within the array. It uses two specific features to optimize storage:

- ▼ **Compression:** When data is written to the RVA subsystem, it is compressed. The data written to the arrays is therefore stored in compressed format. On average, IBM quotes a compression ratio of about 3.5 to 1. In practice, the compression algorithm will produce average compression values of about 5 to 1.
- ▼ **Compaction:** RVA writes data to the disk arrays using a fixed block architecture. The space traditionally wasted by inter-block gaps is eliminated and wasted space at the end of partially used tracks is reduced. In fact, IBM claims the maximum unused space per data set that can be wasted to be less than one 2KB block.

RVA has one other feature which makes it different from all other disk subsystems, it uses a 'log-structured file' method for storing data. The log-structured file maps the MVS view of a disk to the physical location of the data on the array. As data is updated, the updates are not written back to the same place on the array. Instead, they are written to a new currently unused area. This may seem like a strange thing to do, but remember that the data is stored in a compressed format, so the updated data will almost certainly compress to a different size. If the newly compressed data occupies more space than before, then it is not going to fit back where it came from. Therefore RVA always writes updates to a new area of the array. In some respects, this is

analogous to a partitioned data set. If a member of a PDS is updated, it is rewritten at the end of the file. The PDS then fills with unusable space that rewritten members once occupied and needs compressing to reclaim the space released by updated members. Similarly, the RVA needs to reclaim space released after data has been updated. The subsystem continuously runs a background task called freespace collection which retrieves the space created by data updates. Freespace collection runs within the RVA controller and therefore consumes no CPU cycles on the host machine.

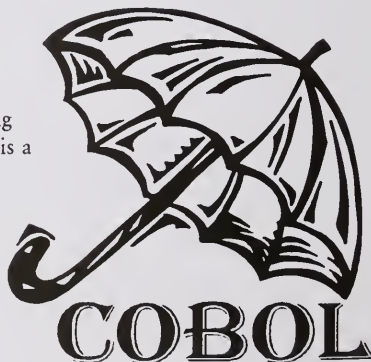
The combination of the RVA's architecture and IBM software named 'SnapShot', will offer a unique solution to volume and data set copying functions within the same subsystem. What makes SnapShot unique and not just another copying tool, is that the copy time is almost instantaneous, regardless of the amount of data involved. As an added bonus, when a copy is first made, it takes no additional space to store. The SnapShot copy function is executed within the RVA and therefore takes very little CPU resource on the hot MVS system. More information on SnapShot will be in a later issue of *ISD News & Views*.

ISD is excited about the new RAMAC device, which is technically known as a 9393-T82, and its related software. This RVA will reduce planned downtime due to scheduled outages, including downtime for procedures to accommodate disk space management, performance tuning, media maintenance, and data backup tasks. If you have any questions about the RVA, please contact Richie Bender at 444-1595, ZIP! or e-mail at rbender@mt.gov or Robin Anlian, at 444-2898, ZIP! or e-mail at ranlian@mt.gov.

What's in a COBOL Name?

If you are completely confused by the assortment of names coming out of IBM for their COBOL compilers you are not alone. There is a method to the madness and this article will attempt to clarify.

Most of the mainframe COBOL applications in use throughout state government have been written and compiled in OS/VS COBOL. This compiler is mostly referred to as "IBM COBOL" or, just plain "COBOL". Original IBM publications called it "IBM VS COBOL for OS/VS". Presently, all publications refer to this compiler as OS/VS COBOL. It is ANSI 74 standard.



When IBM upgraded to ANSI 85 standard they decided to also rename the compiler. In keeping with the VS COBOL notation used earlier, they derived the name VS COBOL II. This is commonly referred to as "COBOL 2". But the official name is VS COBOL II.

Now things start to get a little muddy. VS COBOL II did not stay on the scene for very long before the Language Environment (LE) runtime principle became the main emphasis for IBM's languages. The principle of LE was to bring all languages under one runtime umbrella. Along those lines, IBM began to try to formulate a naming convention that would combine the characteristics of all the languages. Since the C language had already started the /370 naming, the new LE based COBOL was named COBOL/370 along with LE which was named LE/370.

But the 370 system soon became a 390 system and the /370 convention was obsolete. At this point IBM decided to name the languages after the operating system for which they are designed. Being a compiler for the MVS operating system, our most current compiler then took on the name of COBOL for MVS.

There's more. Last fall the operating system was upgraded. OS/390 replaced MVS. What is the new

COBOL compiler going to be called? COBOL for OS/390. And COBOL for OS/390 will run under the LE for OS/390 runtime environment.

For a discussion on ISD support for the compilers mentioned above, see the *ISD Year 2000*

Compliance Plan which can be found on ISD's web site at <http://www.mt.gov/isd/year2000> or on the value added server at guest:year2000@isdcomp.pln.

Keep this article handy as you will probably be hearing more about these compilers as we migrate towards COBOL for MVS and, eventually, COBOL for OS/390. Direct your questions regarding COBOL compilers to either Glen Stroop 444-2945, ZIP! or e-mail at gstroop@mt.gov or Bill Ramsay 444-2902, ZIP! or e-mail at bramsey@mt.gov.

Information for this article was taken from the IBM COBOL Newsletter. More information can be found on IBM's COBOL homepage at <http://www.software.ibm.com/ad/cobol>.

9-1-1 Advisory Council



The 9-1-1 Advisory Council has been meeting every three months since the Enhanced 9-1-1 legislation passed in April 1997. The monthly fee assessed against telephone lines increased from \$.25 to \$.50 to provide additional funding for upgrading Basic 9-1-1 systems to Enhanced 9-1-1 (E9-1-1). The Council has assisted 9-1-1 program personnel with producing the *E9-1-1 Telephone System Application Form*, the *E9-1-1 Coordinator's Handbook*, and the *Addressing Guidebook for Local Governments*. These documents were printed and distributed to 9-1-1 jurisdiction personnel this fall to assist with the E9-1-1 planning. The Council has started to address other issues which are affecting 9-1-1 systems, such as the use of "3-1-1" for non-emergency calls, and FCC Docket 94-102, which requires wireless carriers to implement Enhanced 9-1-1 service for wireless 9-1-1 calls, provided a cost recovery mechanism is in place.

Members of the Council are:

Drew E. Dawson

Chief, EMS Bureau Dept. of Health & Environmental Sciences, Emergency Medical Services

William McCauley

Mayor, City of Cut Bank, Montana League of Cities and Towns

Jane Jelinski

Gallatin County Commissioner, Montana Association of Counties

Rick Newby

Chief, Miles City Police Dept., Montana Association of Chiefs of Police

Kurt Seward

Sheriff, Rosebud County, Montana Sheriffs and Peace Officers Assoc.

Richard Brumley

Montana EMS Assoc.

Marshall Hyle

Asst. Chief, Missoula Fire Dept., Montana Fire Chiefs Association

Dave Mason

Montana Volunteer Firefighters Assoc.

The principle
of Language
Environment
was to bring
all languages
under one run
time umbrella.

Ken Mikkelsen

Montana Fire Districts Association

Jim Kraft

Coordinator, Yellowstone County DES,
Association of DES Coordinators

Al Brockway

Montana Board of Crime Control

Major Bert Obert

Montana Highway Patrol

James Anderson

Disaster & Emergency Services, Dept. of Military
Affairs

Michael C. Strand

Montana Independent Telecommunications
Systems

Bill Wade

Mid-Rivers Telephone Cooperative, Montana
Telephone Association

Dan Green

US West Communications

Ted Benson

Western Wireless

The next 9-1-1 Advisory Council meeting will be
held on January 13, 1998 at 9am in room 108 of
the Capitol Building.

For more information contact
Surry Latham at 444-2420,
ZIP! or e-mail at
slatham@mt.gov.

Public Safety Communications Program Update

The Public Safety Communications Program was recently reorganized as a separate section under the Customer, Policy and Development Bureau of the Information Services Division. Mike Bloom was hired as manager of the Public Safety Communications Section and is teamed with Ron Haraseth who was previously attached to the Telecommunications Policy and Development Section. Mike brings an extensive

law enforcement background to the program. The new section is responsible for the continued effort to support state and local public safety entities' land mobile radio requirements.

Along with ongoing support functions, the newly formed section will be responsible for supporting a major project to develop a potential statewide shared public safety communications system. The project is currently entering phase two which will develop a detailed system design and is envisioned as providing a means to support the mobile communications requirements for all levels of government and public safety in the State of Montana. Spectrum Resources, Inc. of St. Charles, Missouri was recently announced as the assisting communications consulting firm to assist with phase two of the project.

Concurrently, on November 13, 1997, Governor Marc Racicot announced the creation of a new council to oversee the state communications project. The Montana Public Safety Communications Council replaces the Montana Public Safety Communications Task Force.

The following individuals were appointed to the Montana Public Safety Communications Council in accordance with Montana Executive Order No. 21-97, under the Department of Administration:

Lois Menzies

Director, Dept. of Administration, fulfills the qualifications for being the Director of the Dept. of Administration.

Mike Meldahl

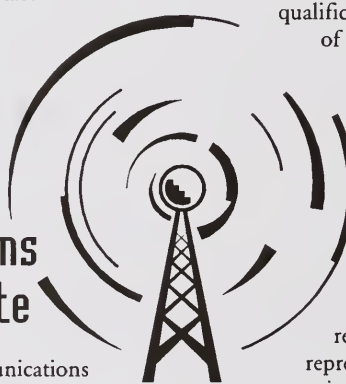
Vice President, M.P.C., Communications Services, fulfills the qualifications for being a representative of Montana Power Company and other private utilities participating as private entities.

Dennis Taylor

City Manager, City of Helena, fulfills the qualifications for being a representative of local government who will represent the general local government operations of the municipalities, cities, and towns of Montana.

Mike Griffith

Commissioner, Lewis & Clark County, fulfills the qualifications for being a representative of local government who will represent the county government operations of Montana.



William S. Strizich

U.S. Marshall, fulfills the qualifications for being a representative of the federal government.

John Blacker

Administrator, D.O.T., Maintenance Division, fulfills the qualifications for being a representative of state government.

Larry Fasbender

Deputy Director, Dept. of Justice, fulfills the qualifications for being a representative of state government.

Bob Jones

Chief, Great Falls Police Dept., fulfills the qualifications for being a representative of law enforcement and the Montana Association of Chiefs of Police.

Bill Slaughter

Sheriff, Gallatin County, Law & Justice Center, fulfills the qualifications for being a representative of law enforcement and the Sheriffs and Peace Officers Association.

Drew Dawson

Section Supervisor, PHHS, Emergency Medical Services Bureau, fulfills the qualifications for being a representative of the emergency medical services community.

William Jameson

MSU - Electrical Engineering Dept., fulfills the qualifications for being a representative of citizens at large.

Scott Waldron

Chief, Montana Fire Chiefs Association, fulfills the qualifications for being a representative of fire protection services.

Mike Brown

9-1-1 Director, Gallatin County/Bozeman, fulfills the qualifications for being a representative of the 9-1-1 community.

Lloyd Jackson

Tribal Disaster Emergency Coordinator, Flathead Nation, fulfills the qualifications for being a Tribal representative.

Further information on the Public Safety Communications Program can be obtained by contacting Mike Bloom at 444-7335, ZIP! or e-mail at mbloom@mt.gov.

MGIC • Montana Geographic Information Council

The Montana Geographic Information Council was created in September, 1997 by the Governor to provide policy level direction and promote efficient and effective use of geographical information. The Council may also establish priorities for statewide needs, help in developing plans to meet those needs, simplify cost sharing, encourage collaboration and cooperation to develop databases and applications, and promote coordination of programs, policies, and technologies. The goal is to maximize opportunities and minimize duplication.

The council is comprised of fourteen members appointed from the private sector, local, state and federal governments, the university system and the Native American community. The following individuals presently make up the Council:

Lois Menzies

Director, Montana Dept. of Administration,
Council Chair

Richard Aspinall

Director, Geographic Information and Analysis
Center, Montana State University

Harold Blattie

Commissioner, Stillwater County

Stuart Blundell

President, Integrated GeoScience

Mary Bryson

Director, Montana Dept. of Revenue

Don Childress

Administrator, Wildlife Division of Fish, Wildlife
& Parks

Lance Clampett

USGS National Mapping Division

Steve Fourstar

Natural Resource Specialist, Bureau of Indian
Affairs

Steve Hellenthal

Manager, Data Processing Dept., Yellowstone
County

Dan Mates

Chief, Montana Cadastral Survey, Bureau of Land Management

Jon Sesso

Director, Butte-Silver Bow Planning Dept.

Steve Solem

Director, Information Management Dept., U.S. Forest Service, Northern Region

Haren Strege

Montana State Librarian

Dan Sullivan

Executive Vice-President, Montana Power Company

The first meeting of the Council was held November 12, 1997. This introductory meeting with Council members described their GIS involvement and visions for GIS coordination in the future. The next meeting is scheduled for Wednesday, January 14, 1998. Past and upcoming meeting agendas, and the minutes of Council meetings may be accessed on the web at <http://www.mt.gov/isd/groups/mgic/index.htm>

For more MGIC information contact Stu Kirkpatrick at 444-9013, ZIP! or e-mail at skirkpatrick@mt.gov.

ITMC • December Meeting

The Information Technology Managers Council met December 1, 1997. The staff of MT PRRIME gave an update on that project and discussed hardware and training needs for budget module users. An update on the software suite RFP process was given.

The new Year 2000 Compliance Officer, Scott Lockwood, was introduced to the group. An update of the state's progress was given. The next

emphasis will be on finishing the prioritization of the state's systems in high, medium and low categories. Bimonthly progress updates will be given to the Joint Oversight Committee on State Management Systems.

Issues relating to leasing PCs were discussed. Agencies interested in leasing PCs should consider issues like financial benefits, warranty validation, cancellation provisions, transferability of equipment, maintenance responsibility, insurance and more.

Full minutes of the meeting are available on the ISD Value Added Server (VAS) at guest@itmcinfo/minutes97 or from Kim LaRowe of ISD at 444-2700, ZIP! or e-mail at klarowe@mt.gov.

ITAC Conducts Strategic Planning Session

On December 3 and 4, members of the Information Technology Advisory Council (ITAC) and representatives of other state agencies met to continue the strategic planning process begun in 1994. This planning session was requested by ITAC to address IT issues of strategic importance to the enterprise. ITAC requested that all agencies participate as equal partners.

Past efforts initiated the development of subsequent legislative agendas that have proven to be well thought out and also well received in the last few legislative sessions.

Lois Menzies, chair of ITAC stated, "Planning is essential if we are going to properly manage this important resource and be as successful as possible in convincing the legislature of our collective IT needs—with a combined budget approaching \$100 million per biennium!"

ITAC will continue planning and prioritizing for the enterprise throughout the winter and early spring. For more information, contact Jeff Brandt, Chief of the ISD Policy, Development and Customer Relations Bureau at 444-3988, ZIP! or e-mail at jbrandt@mt.gov.



ITAC • December Meeting

The regular meeting of the Information Technology Advisory Council (ITAC) was held December 10, 1997.

The group heard a report from the Department of Revenue on major business re-engineering processes taking place in the Department to change the way it conducts business. The project will organize and manage the Department around common processes to provide fast, courteous, accurate and cost effective service to customers statewide.

Member Peggy Beltrone, Cascade County Commissioner, and Eric Spangenberg, Cascade County GIS Manager, presented a local government perspective on local and state government interaction and data ownership.

Full minutes of the meeting are available on the ISD Value Added Server (VAS) at guest:itacinfo/minute97 or from Barbara Clark of ISD at 444-7800, ZIP! or e-mail at baclark@mt.gov.



ZIP! Tips • Use and Abuse

With the widespread use of electronic messaging, both with the state's e-mail system and the Internet, abuse becomes an increasing problem. Some e-mail users have had a great joke hit their intray and can't resist the temptation to share it. In doing so, they are in clear violation of the State's Administrative Rules of Montana, specifically: 2.13.102 Section (1) Entitled Use of the State's Telecommunications Systems, since electronic mail is considered a part of the Enterprise Telecommunications System.

The state's policy regarding the use of the telecommunications systems includes restricting use of the telecommunications facilities to the conduct of state business. Please use good judgement in compliance with this policy as you have opportunities to access and distribute information on the Internet and within the state.

Often our section gets requests for assistance on sending and/or receiving Internet e-mail. This is our responsibility when it is to enhance the state's communication for business purposes. We have to draw the line when a user is having trouble sending and/or receiving personal e-mail.

As noted in previous *ISD News & Views* articles, chain letters also infiltrate our e-mail system. They are developed with the intent to greatly escalate network traffic. If the traffic is large enough, it can bring down systems. If you are the recipient of a chain letter, please do not forward it. Clearly, it is NOT state business.

Keep in mind, many state agencies are periodically monitoring user's intrays and outtrays for non-state business messaging. Logs of ALL incoming and outgoing Internet e-mail are available. They contain the sender and recipient's Internet e-mail address as well as the time and date the message was sent/received. It is possible for agencies to request this information from ISD.

If you have any questions on the appropriate use of e-mail, or any other ZIP! questions, please contact Sue Skuletich of End User Systems Support at 444-1392, ZIP! or e-mail at sskuletich@mt.gov.



Selecting Multiple Files in WordPerfect 6.1

You would like to select several files in the Open File dialog box and then open, move, copy, or delete them all at once. Manipulating them one at a time can be very time-consuming. Is there a way to do this?

Simply click on the first filename, then drag to select additional files. You can also select consecutive multiple files by selecting the first file, then holding down (Shift) and selecting the last file. When you do this, all the files between are also selected. If the files you want aren't right next to each other, hold down (Ctrl) as you click each filename with the mouse.

Once you've selected the files, you can open, copy, move, or delete them at the same time by right-clicking and selecting the option you want, or by using the options on the Menu Bar.

This article was reprinted in part from the October 1997 issue of *WordPerfect Suite Magazine*. For more information concerning this article, contact Irvin Vavruska of End User Systems Support at 444-6870, ZIP!, or via the Internet at ivavruska@mt.gov. For questions about WordPerfect, please contact your agency support staff, WordPerfect's Help Feature, or the ISD Customer Support Center at 444-2000.

Using the Windows 95 Send To Option

Almost every aspect of Windows 95 can be modified to meet users needs. The user's Desktop is contained in a folder accessed from the Start button under **Windows\Start Menu\Programs** folder. The **Send To** folder, also located under the Windows folder, is the subject of this article.

Start Windows Explorer and right click on a file. A pop up menu will appear. Select the **Send To** option. You will see three default options which can be selected. These are 3½ floppy, Mail Recipient, or Briefcase. If you choose the 3½ floppy it will copy the selected file or files to your A: drive. If you were using Microsoft mail the Mail Recipient choice would mail it, or Briefcase would send it to your Briefcase folder. We are going to create a new option for send to: Notepad.

Start Windows Explorer and change to the **Windows\Send To** folder. Right click in the Right pane and choose New, Short Cut. In the Command Line type **Notepad.exe**, click on Next and then Finish. If you right click on a file in Explorer and Choose **Send To** you can now send it directly to notepad. This is a great way to edit .TXT files, .BAT files or any other ASCII based file. The **Send To** menu can contain almost anything. Printers, Programs even specific folders. It is a very useful tool.

For more information concerning this article, contact Brian Divine of End User Systems Support at 444-2791, ZIP!, or via the Internet at bddivine@mt.gov. For questions about Windows 95, please contact your agency support staff or the ISD Customer Support Center at 444-2000.

SyncURLs • Windows 95/NT

If you are like a lot of Internet users, you use both Microsoft Internet Explorer and Netscape Navigator, or you switch from one to the other. If so, you can synchronize the bookmark files between the two browsers, but Internet Explorer does not understand Netscape's bookmark file and vice-versa. To help overcome this problem, *PC Magazine* has made available another Windows 95 free add-on: SyncURLs. Following are short sections of the readme file that comes with SyncURLs.

SyncURLs imports your Netscape bookmarks and/or MSIE "Favorites" into a single "Bookmark Library". You can rearrange your bookmarks within SyncURLs, then export them back out so both browsers contain the same bookmarks and folders. Or, you can save your Bookmark Libraries to disk for easy transport to another computer. SyncURLs is a 32-bit application that runs under either Windows 95 or Windows NT 4.0.

For more detailed information on SyncURLs, see that **readme.txt** file or better yet see the online Help file, which provides full documentation for all features.

If you would like a copy of SyncURLs the files are available on the ISD Value Added Server at **guest:\windows\winaddon\95addons\Syncurls**. If you don't have access to the VAS contact Denny Knapp of End User support at 444-2072, ZIP!, or e-mail at dknapp@mt.gov.

Approach 3.0

A nightmare in the making for the Rookie supporting your desktop database application:

Rookie: Now let's approach this problem very carefully, YOU WANT WHAT?

End User: I want to duplicate not only a record in the database, but duplicate all of the detail records joined to it from another database (i.e. duplicating an existing record and its repeating panel contents at the same time).

Rookie: Are you sure this is what you want?

End User: YES!!

Rookie: OK, here is one way of doing it; next month I'll give you another way. Now that's two *Approaches* to solve the same problem. 1. Creating a macro to duplicate the records 2. Importing the data. This month I will cover number 1, next month we'll go over number 2.

For this example, the ORDERS.APR sample file will be used. The ORDERS.APR file is a file which ships with Approach and is located in the following directory:

(For Approach 3.0 versions)

<DRIVE LETTER>:\<LOCATION OF LOTUS APPS>\APPROACH\SAMPLES\MANUFACT

The macro will duplicate the records by doing the following:

- ▼ Save the original invoice number
- ▼ Duplicate the existing invoice and save its number
- ▼ Find the original detail records
- ▼ Duplicate these records with the new invoice number

To accomplish these steps, the following things will need to be created:

- ▼ Two variable fields
- ▼ Worksheet
- ▼ Macro

In addition, the field definition of one of the existing fields will have to be modified.



Are you still with me?

Create two variable fields:

Two new variable fields should be created. In this example, the following field names will be used:

VAR_CURRENT

VAR_NEW

These fields will store the Order numbers of current and new orders. To define these fields, do the following:

1. Select Create, Field Definition.
2. Click Insert and add the following new field name: VAR_CURRENT.
3. For Data Type, choose Variable.
4. Repeat the process to create VAR_NEW. Do not close the Field Definition dialog box yet.

Changes need to be made to the INVNO field so that when a new line item is created, its Order Number (the joined field) is set to the value currently in VAR_NEW (the id Number of the new Order). To do this, perform the following steps:

1. In the Field Definition dialog box, click on the Database drop-down list and choose the LINE_ITM database.
2. Click on the INVNO field to select it.
3. Click Options.
4. Select the Creation Formula radio button and in the formula box enter VAR_NEW (the field containing the new Invoice number).
5. Click OK twice to close the dialog boxes.

Create the Worksheet

1. Select Create, Worksheet
2. In the drop-down list below "Database Fields", select LINE_ITM.
3. Highlight ITEMNO and click Add.
4. Highlight INVNO and click Add.
5. Click Done.
6. Open the InfoBox and select: In Browse Hide View.
7. Name the worksheet "Line Item Worksheet".

Create the Macro

1. Select Tools, Macros and click New.
2. Create a new macro containing the following macro commands:
 - a. Set VAR_CURRENT = ORDERS.INVNO
Saves the number of the current order
 - b. Records, Duplicate Record
Creates a duplicate of the existing invoice
 - c. Set VAR_NEW = ORDERS.INVNO
Saves the number of the new record
 - d. View, Switch the current view to: Line Item worksheet.
Switches to a worksheet based on the detail database.
 - e. Find, Perform stored find when macro is run.
(Click New Find. In the macro find screen, click in the INVNO column and type @VAR_NEW then press ENTER. Click OK.)
Finds the detail records that match the original order
 - f. Edit, Select All
 - g. Records, Duplicate Record
Duplicates the found set of records
 - h. View Switch To: Order
Switches back to the order form
 - i. Find, Perform stored Find when macro is run.
Click New Find. In the Macro Find screen, click in the INVNO column and type @VAR_NEW then press ENTER. Click OK.
Finds the new order. Click OK. Click Done.

If you have any questions or need help with this procedure, contact Mike Moller of End User Systems Support at 444-9505, ZIP! or e-mail at mmoller@mt.gov.

Portions of this article were found on the Lotus Web Support page and are Copyrighted 1995 Lotus Development Corporation, an IBM Subsidiary. All rights reserved.

Useful Internet Sites

Here are a couple of interesting and useful Internet sites that you can use to analyze and maintain your browser and web pages.

<http://www.browsercheck.com/>

This site will confirm what version of browser you are running as well as listing what the current and beta versions are for Microsoft and Netscape.

Please Note: The actual updating of your browser

should be coordinated through your LAN administrator. Under some situations it may not be advisable to be using the most current release. Use this site for information only.

<http://www.netmechanic.com/>

This site performs three functions; site performance checking, HTML validation and link checking.

The performance checking option will monitor and test your server for the next 8 hours, fetching your page every 15 minutes. For each test in the monitoring period they will measure the amount of time required for each step of the retrieval process.

Validating your HTML increases the chance that your Web site will look good for 100% of your visitors. Please validate only your own pages to minimize network and server traffic. There are several levels of validation that you can check so try a couple until you find what works best for your needs.

The errors spotted by an HTML validator typically fall into two categories: bad tag usage and non-standard extensions. The first of these cases is straightforward. The HTML standards define the minimum level of performance for processing HTML tags. In practice, Netscape Navigator usually exceeds this level and overlooks minor mistakes. Other browsers may not be so kind. In any event, correcting these mistakes is simple and doesn't require much time. So why not fix them?

The second type of error — non-standard extensions — is harder to judge. In this type of error, your page uses a tag supported only by Netscape Navigator or Microsoft Internet Explorer. You will have to weigh the value these tags add to your Web page against the number of visitors using incompatible browsers. Professional design firms routinely track the type of browsers hitting their pages, and make just this sort of trade off decision. If 98% of your visitors can handle the tag and it adds real value to your page, you may want to keep it.

Another important service that this site can perform is link checking. Links can go bad over time and need to be verified periodically. Doing this manually is a real pain so why not let a computer do it? Use the "Check Links" option to verify links for your pages. Please check only your own site to avoid unnecessary network and server traffic.

Note: This is only one of many different HTML checkers available on the Internet. To find other checkers, use a search engine such as Yahoo and search on "HTML checker" To find out what browsers are accessing your pages check your server logs and reports. For sites hosted on the ISD server

these reports can be located at:

<http://www.state.mt.us/reports/complete.htm>

For more information contact Ron Armstrong of the Systems Support Bureau at 444-2905, ZIP! or e-mail at rarmstrong@mt.gov.

Digital Term Contract Changes Effective 12/16/97

The state has approved changes proposed by Digital Equipment Corporation to their PC term contract. DEC now is able to offer the state increased discounts under their Education, State, and Local (ESL) program. New discount levels are 10% on all DEC PCs and accessories, and 14% on all DEC servers and server accessories. DEC's end of the contract will now be serviced by Alliance Systems, a Digital ESL reseller, with Steve Woolley remaining as the principal contact person.

All purchase orders should be made out to Digital Equipment Corporation, and sent to the following address:

PO Box 1559, East Helena, MT 59635, Fax: (406) 227-8853

Alliance Systems is located at 2645 Stagecoach Drive (PO Box 1559), East Helena, MT 59635 and may be reached via the following numbers:

Phone: (406) 227-0007, Fax: (406) 227-8853

All other terms and conditions of the current term contract will remain the same. Please contact Steve Woolley of Alliance at 227-0007 or Brett Boutin of ISD Computing Policy and Development at 444-0515, ZIP! or e-mail at bboutin@mt.gov.

Media Based Training (MBT)

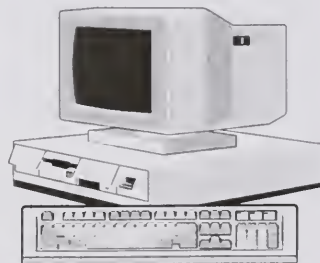
ISD maintains a library of self study training courses for use by state employees. These courses are checked out for a two week period. Most courses are delivered on a video tape but some are multi-media on CD ROM. The information is presented in a very professional manner using various methods including diagrams and real life examples. The accompanying workbook provides the course in written form and after each section quizzes you on what's been covered.

Each month *ISD News & Views* will provide a description of a course series and its modules along with degree of difficulty and prerequisites.

The entire list of courses can be found on the Value Added Server (VAS) at `guest:\training\CT_Video\CBTCours.txt`.

The course description of each course is currently only partially completed but can be found on the VAS at `guest:\training\CT_Video\T3_VAS.rtf`.

If you are an Approach user you can check out the current availability of any course by accessing the file on the VAS at `guest:\training\CT_Video\videodb.apr`.



Course Series: Implementing and Expanding PC LANs

Course Code: 1.01.01

Course Title: *LAN Components*

LAN Components provides you with a historical overview and basic terminology of local area networks (LANs). The three most popular LAN configurations: Ethernet, Token Ring and FDDI are examined, including the standards needed to implement them. As you study the basic LAN components you will look at several devices such as servers, workstations, printers and faxes. You will also learn about various cabling options used in a LAN. A survey of communication components includes repeaters, bridges, routers, and gateways. You will examine some of the most popular WAN communications protocols. And finally, we'll take a look at LAN software, both for the server and the workstation.

Prerequisites: You should have a basic knowledge of data communications.

Technical Difficulty: 1 2 3 4 5

Estimated completion time of this course: 1 hour, 45 min (Video: 45 min + Workbook: 60 min)

■ ■ ■

Course Code: 1.01.02

Course Title: *Network Operating Systems (NOS) and Servers*

This course describes the operation of a Network Operating System (NOS) and how it makes resource sharing possible. You will learn how the NOS, installed on both the workstation and the server, provides data transfer as well as security and management support.

You will explore NOS configuration options, the difference between dedicated and non-dedicated servers as well as the core server applications of file and print services.

Finally, you will look at several examples of popular network operating systems including NetWare, LAN Manager and Banyan Vines.

Prerequisites: You should take *LAN Components* (1.01.01) before taking this course.

Technical Difficulty: 1 2 3 4 5

Estimated completion time of this course: 1 hour, 45 min (Video: 45 min + Workbook: 60 min)

■ ■ ■

Course Code: 1.01.03

Course Title: *LAN Applications*

This course focuses on the applications and factors involved in running different groups of applications

on a LAN. You will learn about LAN ignorant, LAN aware, and LAN intrinsic applications, including which applications are best suited for each LAN configuration. Other applications are also examined. One example is the distributed database application which allows processing to be divided among several computers, thereby maximizing a LAN's potential.

Given the variety of applications and network environments, compatibility becomes an important issue. Three solutions to compatibility problems are explored in this course: multiple platform applications, file conversion, and standardized applications.

Prerequisites: You should take *Network Operating Systems (NOS)* and *Servers* (1.01.02) before taking this course.

Technical Difficulty: 1 2 3 4 5

Estimated completion time of this course: 1 hour, 45 min (Video: 45 min + Workbook: 60 min)

■ ■ ■

Course Code: 1.01.04

Course Title: *LAN Installation and Expansion*

LAN Installation and Expansion details all the major practical aspects of LAN installation. You will examine all the cabling options available for LANs. You will review the physical topologies of Ethernet, Token Ring and FDDI. You will also learn the characteristics of ARCnet, StarLAN and LocalTalk.

Next, you will see how to plan and install your LAN. You will look at a number of important LAN components, taking into account the maximum wiring distances. You will see ways to plan your wiring to accommodate your physical environment, building codes, and future needs.

Prerequisites: You should take *LAN Applications* (1.01.03) before taking this course.

Technical Difficulty: 1 2 3 4 5

Estimated completion time of this course: 1 hour, 45 min (Video: 45 min + Workbook: 60 min)

■ ■ ■

Course Code: 1.01.05

Course Title: *Network Connectivity and Wide Area Networks*

Network Connectivity and Wide Area Networks introduces some of the many connectivity issues involved when different computing programs must communicate and share data. You will examine how workstations and LANs of differing protocols are connected. You will study the methods of connecting

LANs with high-end workstations and mainframes. The major components and applications of TCP/IP will be introduced. Finally, connecting remote users to a LAN is discussed.

Prerequisites: You should take *LAN Installation and Expansion* (1.01.04) before taking this course.

Technical Difficulty: 1 2 3 4 5

Estimated completion time of this course: 1 hour, 45 min (Video: 45 min + Workbook: 60 min)

■ ■ ■

Course Code: 1.01.06

Course Title: *LAN Troubleshooting and Global Network Management*

This course provides you with both the general concepts and hands-on knowledge of LAN management. This course looks at two types of management: LAN administration and network management. You will learn how to detect and diagnose common problems and what tools can be used to solve network problems.

You will examine the implementation of security features involved in login procedures. You will also look at global network management which is the responsibility of the network manager. You will look at the implications of protocols such as SNMP and CMIS/CMIP.

Prerequisites: You should take *Network Connectivity* and *Wide Area Networks* (1.01.05) before taking this course.

Technical Difficulty: 1 2 3 4 5

Estimated completion time of this course: 2 hours (Video: 60 min + Workbook: 60 min)

For more information contact Trapper Badovinac of the Policy, Development, and Customer Relations Bureau at 444-4917, ZIP! or e-mail at tbadovinac@mt.gov.

Training Calendar

This schedule has been assembled by the Helena College of Technology of the University of Montana. If you have any questions about enrollment, please call 444-6821. All classes will be held at the Helena College of Technology at 1115 N. Roberts. Please note that these costs are subject to change each July 1st.

The Helena College of Technology makes reasonable accommodations for any disability that may interfere with a person's ability to participate in training. Persons needing an accommodation must notify the college no later than two weeks before the date of training to allow adequate time to make needed arrangements. To make your request known, call 444-6821.

To enroll in a class, you must send or deadhead an enrollment application to the State Training Center, HCT, Helena, MT 59601. If you have questions about enrollment, please call 444-6821.

Once you enroll in a class, the full fee will be charged UNLESS you cancel at least three business days before the first day of class. HCT is willing to schedule specific classes by request from state agencies.

HCT Supports MT PRRIME Training Needs

The coming Legacy Solutions and PeopleSoft modules will require competencies in Windows 95, Word and Excel. Training in these products and one month's use is recommended prior to employees attending module training.

The Helena College of Technology has scheduled additional classes for MT PRRIME users designed to facilitate the transition from Windows 3.1 to Windows 95; WordPerfect to Word; and Lotus to Excel.

Windows 95	Feb 3	8:30-12:00
Word 7	Feb 3	1:00-4:30
Excel 7	Feb 4	8:30-12:00

Windows 95	Feb 4	1:00-4:30
Word 7	Feb 5	8:30-12:00
Excel 7	Feb 5	1:00-4:30

Word 7	Feb 6	8:30-12:00
Excel	Feb 6	1:00-4:30

Windows 95	Feb 9	1:00-4:30
Word 7	Feb 12	8:30-12:00
Excel 7	Feb 13	8:30-12:00

Word 7	Feb 23	8:30-12:00
Excel	Feb 23	1:00-4:30

Windows 95	Feb 24	8:30-12:00
Word 7	Feb 24	1:00-4:30
Excel 7	Feb 25	8:30-12:00

Windows 95	Feb 25	1:00-4:30
Word 7	Feb 26	8:30-12:00
Excel 7	Feb 26	1:00-4:30

Word 7	Feb 27	8:30-12:00
Excel	Feb 27	1:00-4:30

More dates available in March.

	DATE	COST	LENGTH
Data Base Classes			
Intro. to Oracle	January 20-23 (am)	170.00	2
Prereq. Intro to Windows	March 16-19 (am)		
Intro. to SQL	January 26-29 (am)	170.00	2
Prereq. Intro to Oracle	March 23-26 (am)		
Oracle Developer 2000, part I	February 2-9 (am)	284.95	3
Prereq. Intro to Oracle & SQL		Paid by ISD*	
PL/SQL	February 23-26 (am)	170.00	2
Prereq. Intro to Oracle & SQL			
Oracle Developer 2000, part II	March 2-4	255.00	3
Prereq. Oracle Dev. I & PL/SQL		Paid by ISD*	
Oracle Designer	February 12-26 (pm)	461.95	5
Prereq. Oracle Dev. I; PL/SQL recommended		Paid by ISD*	
NEW			
Generating Applications with Designer 2000	Jan. 13-15, 20-22 (pm)	255.00	3
Prereq. Oracle Designer 2000		Paid by ISD*	
Lotus Approach	February 2	85.00	1
Prereq Intro to Windows			
Data Network/Mainframe Classes			
JCL	February 17-20 (am)	170.00	2
Microcomputer Classes			
Windows 95 Conv.	January 16 (am)	42.50	.5
Prereq. familiar with Windows	March 8 (am)		
Windows 95	February 9	85.00	1
ZIP!Office	January 23 (am)	FREE	.33
	February 17 (pm)		
WordPerfect 6.1 for Windows	January 20-21	170.00	2
Prereq. Intro to Windows 3.1 or 95			
WordPerfect 6.1 Conv. Windows	February 12	85.00	1
Prereq. Intro to Windows 3.1 or 95			
Word 7	February 18	85.00	1
Prereq. Windows 95	March 6		
Lotus for Windows	January 26-27	170.00	2
Prereq. Intro to Windows 3.1 or 95			
Lotus Conv. To Windows	February 13	85.00	1
Prereq. Intro to Windows 3.1 or 95			
Excel 7	February 19	85.00	1
Prereq. Winodws 95	March 30		

Prerequisites may be met with consent of Instructor

* The Oracle Designer and Developer class fees are recovered through the monthly data network rate.

ISD Class Enrollment Application

Complete this application IN FULL and return it
AT LEAST ONE WEEK prior to the first day of class.

COURSE DATA

Course Request: _____

Date Offered: _____

STUDENT DATA

Name: _____

Soc. Sec. Number (for P/P/P): _____

Agency & Division: _____

Mailing Address: _____

Phone: _____

How have you met the required prerequisites for this course? Explain, giving the class(s) taken, tutorial completed, and/or experience.

BILLING INFORMATION/AUTHORIZATION MANDATORY

User ID: _____

Agency#: _____

Authorized Signature: _____

Full class fee will be billed to registrant unless cancellation is
made three business days before the start date of the class.

DEADHEAD COMPLETED FORM TO:
COMPUTER TRAINING CENTER
HELENA COLLEGE OF TECHNOLOGY
OF THE UNIVERSITY OF MONTANA
PHONE 444-6800 FAX 444-6892

DeadHead *BACK*



Dept. of Administration
Information Services Div.

Editor's Notes

Published By

ISD News & Views is published monthly by the Information Services Division (ISD), Department of Administration, Room 229, Mitchell Building, Helena, MT 59620, 406-444-2700, FAX 406-444-2701.

This newsletter is dedicated to educating and informing the reader with pertinent State technology news. Materials may be reproduced without permission. Alternative accessible formats of this document will be provided upon request.

Editorial Submissions

To submit an article to *ISD News & Views* for publication, please send it to Trapper Badovinac, preferably via ZIP!. Please have your article in by the 8th of the month for inclusion in the following month's newsletter.

ISD Customer Support Center

Have a problem (opportunity)? Do you need ISD assistance for any of your information processing requirements? Then contact the ISD Customer Support Center (444-2000), which is our central point of contact.

Subscription Services

ISD News & Views is a free publication. If your name or address is incorrect, please send your current mailing label along with any corrections to Trapper Badovinac. If you would like to be added to our mailing list, let us know your name, agency, division, bureau, phone, address, city, state, zipcode, and whether you would like your newsletter to be distributed via ISD Box #, Deadhead or Mail. *ISD News & Views* is also available electronically via ZIP!/ZIP!Office or VAX e-mail as well as the Web at <http://www.mt.gov/isd/current/news/index.htm>. Current and back issues are located on the State of Montana Electronic Bulletin Board System (444-5648 local & out-of-state, or 800-962-1729 toll free in Montana) and on ISD's Value Added Server \guest\N&V.

Distribution Notes

650 copies of this public document were printed at a cost of \$300. Distribution costs are \$18.25. 128 copies of this document were distributed electronically at no cost.

Editor

Trapper Badovinac (444-4917), ZIP! or e-mail at tbadovinac@mt.gov. Layout: Diana MacDonald (444-3170), ZIP! or e-mail at dmacdonald@mt.gov.



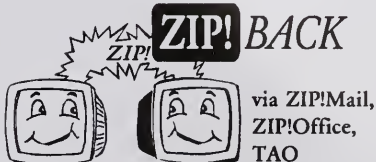
Information
Services Division
406-444-2701



Dept. of Administration
Information Services Division
PO Box 200113
Mitchell Building, Rm 229
Helena, MT 59620-0113



via Internet



via ZIP!Mail,
ZIP!Office,
TAO

6127

Department of Administration
Information Services Division
Mitchell Building, Room 229
P.O. Box 200113
Helena, MT 59620-0113



Is Your Address Correct?

If not, see "Subscription Services..." above.

CHUCK GRIFFIN

DEPT OF ADMINISTRATION
ISD/COB

HELENA

MT 59620

Box 56